

**United States Department of Agriculture  
Agricultural Marketing Service, Science & Technology  
Pesticide Data Program**

SOP No.: PDP-STD-02		Page 1 of 4
Title: Analytical Reference Standards Preparation		
Revision: 3	Replaces: 12/11/92	Effective: 09/01/99

**1. Purpose:**

To provide standard procedures for the preparation and disposal of analytical standards used in the USDA/AMS Pesticide Data Program (PDP).

**2. Scope:**

This standard operating procedure shall be followed by all laboratories conducting residue studies for PDP, including support laboratories conducting stability or other types of studies that may impact the program.

**3. Outline of Procedures:**

- 5.1 Preparation of stock solutions
- 5.2 Preparation of intermediate dilutions
- 5.3 Disposal of standards

**4. References:**

USDA/AMS PDP Quality Assurance Meeting, May 18-20, 1999  
40 CFR 160.47, Facilities for handling test, control, and reference substances  
40 CFR 160.105, Test, control and reference substance characterization  
40 CFR 160.107, Test, control, and reference substance handling  
40 CFR 160.83, Reagents and Solutions  
40 CFR 160.113, Mixtures of substances with carriers

**5. Specific Procedures to be Followed:**

This standard operating procedure (SOP) represents minimum PDP requirements and is presented as a general guideline. Each laboratory shall have written procedures that provide specific details concerning how the procedure has been implemented in that laboratory.

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**5.1 Preparation of Stock Standard Solutions**

Stock standard solutions shall be prepared in a separate standard preparation area to avoid contamination of samples with pesticide standards. Each stock standard shall be given a unique identifying code and shall be labeled with a minimum of: pesticide name, concentration, solvent used, date of preparation, initials of preparer, and expiration date of solution. Written standard operating procedures for stock standard preparation shall include the method for preparing standards, calculations used in standard preparation, documentation which provides for standard traceability and safety guidelines. Data recorded for each neat source standard shall include source, lot number, date received, expiration date, purity, and amount used.

**5.2 Preparation of Intermediate Dilutions**

Intermediate dilutions, including mixed standards, shall be prepared in a separate standard preparation area. Each standard shall be given a unique identifying code and shall be labeled with pesticide name, concentration, solvent used, date of preparation, initials of preparer, and expiration date of solutions. Written standard operating procedures shall include the method for standard preparation and documentation which provides for standard traceability. The expiration date of mixed standards shall be the earliest expiration date of the individual components.

**5.3 Standard Disposal**

Disposal of standards (both neat standards and dilutions) shall be in accordance with the laboratory's Chemical Hygiene Plan. Disposal shall be documented.

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Revision 3

May 18-20, 1999

QA Committee

- Modified format to conform to other SOPs
  - Updated section 4, References
  - Modified section 5.3 to accommodate individual laboratory waste disposal procedures
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